

USPTO Serial Number :09/160,728

Page 4 of 7

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- 38 The methods of Claim 28 wherein said presentation is for use in the teaching of said transformation rules.
- 39 The methods of Claim 29 wherein said presentation is for use in the teaching of said transformation rules.
- 40 The methods of Claim 30 wherein said presentation is for use in the teaching of said transformation rules.

Remarks - General

Applicant has re-written all claims to define the invention more particularly and distinctly so as to overcome the technical rejections and define the invention patentably over prior art.

Section 102 Rejections:

- 1 **Nakayama Does Not Use Animation.** The rejection of old claims 1 and 12, is based on the claims of Nakayama who discloses a calculator with stepwise display of linear equations. We respectfully submit that neither the Nakayama claims, nor any part of the Nakayama specifications use "animation" of transformations in the sense defined in the applicant's specifications. The Nakayama presentations show only the starting and ending representations of each step (itself a transformation) in the overall transformation of the equation leading to the solution. The applicant's animated transformation, on the other hand, displays each step as a continuous transformation. It is this continuous animated picture that makes it easier for the viewer to visualize the nature of an abstract transformation process and to remember it.

The new claims have been re-written to narrow their scope, to make the meaning of animation of transformations clearer, and to define the intermediate representations in distinction to those of prior art.

USPTO Serial Number :09/160,728

Page 5 of 7

- 2 **Nakayama Uses Step-by-Step Presentations.** Nakayama discloses "...each time an advance key is depressed, process equations, obtained by transforming the equations step by step to reach their answers, are successively displayed..." (Abstract, second sentence, our emphasis.)

From this and from the Nakayama disclosure it is clear that only a stepped display is used and that no animation between steps is intended nor anticipated. In contrast the applicant's animated continuous display is much better at demonstrating to the viewer the detailed nature of the transformation step. For example, in the process of moving a term from the left of an equation to the right, Nakayama would present the equation with the subject term on the left, then after a user key command, the equation with the subject term on the right. A distracted observer may not even notice that a term was moved, particularly if the equation had many terms. In contrast, the applicant's invention would present the equation with the term on its left, then would show a continuous movement of that term from the left to the right of the equation, while its sign is changed. It would be difficult for any viewer, no matter how distracted, not to see what is happening. Therefore we submit that our invention is both different from and superior to that of Nakayama.

This has been made this clearer in the re-written claims.

- 3 **Nakayama Does Not Use Animation in Teaching.** Rejection of old claim 2 is based on Nakayama's claim for the use of his invention in teaching. However, Nakayama discloses a calculator with stepwise display of linear equation solutions and does not envision the use of "animation" in teaching. As already argued above, the animation method of teaching is superior to a step-by-step presentation.

USPTO Serial Number :09/160,728

Page 6 of 7

- 4 **Calculations of Nakayama not for Animation.** Regarding old claims 3 and 13, re-written as claim 23, Nakayama's teaching of calculating the intermediate abstract representations (between a starting and an ending representation) involves the calculation of the statically displayed equations, intermediate between the entered (statically displayed) equation and the (statically displayed) solution. In the applicant's invention, it is the presentations intermediate between these statically displayed equations that are calculated. This calculation needs to be such that the resulting rapid display of the animation process produces a smooth and desirable result. Such a calculation process was not envisioned by Nakayama and was not needed.
- 5 **Intermediate Representations Fictitious.** Furthermore, in the modified language of new claim 21 (replacing old claim 1) the "intermediate representations" are not necessarily governed by the rules of the subject matter, whereas those of Nakayama are so governed. Therefore the calculated intermediate representations of the invention are considered fictitious, inviting creative talent and a great deal of latitude, whereas those of Nakayama are fixed by the rules of mathematics. This allows the implementor the ability to make these as attractive, interesting, and unusual as possible, making it easier for the viewer to remember.
- 6 **Remaining Claim Rejections.** In view of the foregoing, and the changes of wording incorporated in the new claims, applicant respectfully submits that the grounds for the rejection of the remaining dependent claims no longer apply.

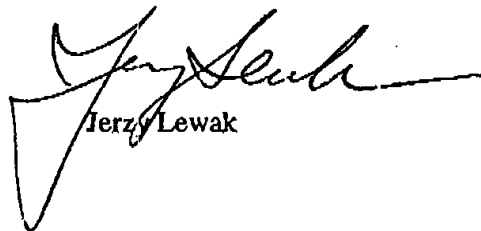
USPTO Serial Number :09/160,728

Page 7 of 7

Summary. Accordingly, applicant submits that none of the references, alone or in combination, anticipate or make obvious the invention as presently claimed. Applicant submits that this case is now in condition for allowance. Therefore, applicant respectfully requests reconsideration and reexamination of the present application and allowance of the case at an early date.

Applicant feels that patentable subject matter is clearly present. If the examiner agrees but does not feel that the present claims, as modified, are technically adequate, applicant respectfully requests that the examiner write acceptable claims pursuant to MPEP 707.07(j).

Respectfully submitted,



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CERTIFICATE OF FACSIMILE TRANSMISSION

I certify that on the date below I will fax this communication consisting of 7 pages to Group 2700 of the Patent and Trademark Office at the following number: (703) 308-6606

Date: November 1, 2000

Inventor's Signature

